

wherein

R^1 represents C_{1-12} alkyl, $-(CH_2)_a$ -aryl, or $(CH_2)_a$ Het¹ (all of which are optionally substituted by one or more substituents selected from -OH, halo, cyano, nitro, C_{1-4} alkyl and/or C_{1-4} alkoxy);

a represents 0, 1, 2, 3, or 4;

Het¹ represents a five to ten-membered heterocyclic ring containing one or more heteroatoms selected from oxygen, nitrogen and/or sulfur, and which also optionally includes one or more =O substituents;

X represents O or S;

R^{5a} and R^{5b} independently represent H or C_{1-3} alkyl;

R^2 and R^3 independently represent H, C_{1-4} alkyl (optionally substituted with one or more nitro or cyano groups), OR^7 , $N(R^{7a})R^{7b}$, $OC(O)R^8$ or together form $-O-(CH_2)_2-O-$, $-(CH_2)_3-$, $-(CH_2)_4-$ or $-(CH_2)_5-$;

R^7 and R^8 independently represent H, C_{1-6} alkyl or $-(CH_2)_b$ -aryl (which latter two groups are optionally substituted by one or more substituents selected from -OH, halo, cyano, nitro, C_{1-4} alkyl and/or C_{1-4} alkoxy);

R^{7a} and R^{7b} independently represent H or C_{1-6} alkyl;

b represents 0, 1, 2, 3 or 4;

R^4 represents H or C_{1-6} alkyl;

D represents H, -OH, or $-(CH_2)_cN(R^{10})(R^{11})$;

c represents 0, 1, 2, 3 or 4;

R^{10} represents H, C_{1-6} alkyl, $-(CH_2)_d$ -aryl, $-C(NH)NH_2$, $-S(O)_2R^{13}$, $-N(R^{14})(R^{15})$, $-C(O)R^{16}$ or $-C(O)OR^{17}$;

e represents 1 or 2;

R^{11} represents H, C_{1-6} alkyl, $-C(O)R^{18}$ or $-(CH_2)_f$ -aryl (which latter group is optionally substituted by one or more substituents selected from -OH, cyano, halo, amino, nitro, C_{1-6} alkyl and/or C_{1-6} alkoxy);

R^{14} , R^{15} , R^{16} , R^{17} and R^{18} independently represent H, C_{1-6} alkyl, Het² or $-(CH_2)_g$ -aryl (which latter three groups are optionally substituted by one or more substituents selected from -OH, cyano, halo, amino, nitro, C_{1-6} alkyl and/or C_{1-6} alkoxy);

R^{13} represents C_{1-6} alkyl, aryl or $-(CH_2)_h$ -aryl (all of which are all optionally substituted by one or more substituents chosen from halo, nitro, C_{1-6} alkyl and/or C_{1-6} alkoxy);

d, f, g and h independently represent 0, 1, 2, 3 or 4;

Het² represents a five to ten-membered heterocyclic ring containing one or more heteroatoms selected from oxygen, nitrogen and/or sulfur, and which also optionally includes one or more =O substituents;

R^6 represents one or more optional substituents selected from -OH, cyano, halo, amino, nitro, C_{1-6} alkyl (optionally terminated by $-N(H)C(O)OR^{18a}$), C_{1-6} alkoxy, $-C(O)N(H)R^{19}$, $-NHC(O)N(H)R^{20}$, $-N(H)S(O)_2R^{21}$ and/or $-OS(O)_2R^{22}$;

R^{19} and R^{20} independently represent H or C_{1-6} alkyl;

R^{18a} , R^{21} and R^{22} independently represent C_{1-6} alkyl;

A represents a single bond, C_{1-6} alkylene, $-N(R^{23})(CH_2)_j-$, $-O(CH_2)_j-$ or $-(CH_2)_jC(H)(OR^{23})(CH_2)_k-$ (in which latter three groups, the $-(CH_2)_j-$ group is attached to the bispidine nitrogen atom, and which latter four groups are all optionally substituted by one or more OH groups);

B represents a single bond, C_{1-4} alkylene, $-(CH_2)_mN(R^{24})-$, $(CH_2)_mS(O)_n-$, $-(CH_2)_mO-$ (in which three latter groups, the $-(CH_2)_m-$ group is attached to the carbon atom bearing D and R^4), $-C(O)N(R^{24})-$ (in which latter group, the $-C(O)-$ group is attached to the carbon atom bearing D and R^4), $N(R^{24})C(O)O(CH_2)_m-$ or $-N(R^{24})(CH_2)_m-$ (in which latter two groups, the $N(R^{24})$ group is attached to the carbon atom bearing D and R^4);

j, k and m independently represent 0, 1, 2, 3 or 4;

n represents 0, 1 or 2;

R^{23} represents H, C_{1-6} alkyl or

R^{24} represents H or C_{1-6} alkyl;

R^{25} represents H, C_{1-6} alkyl, Het^3 or $-(CH_2)_p$ -aryl (which latter two groups are optionally substituted by one or more substituents selected from -OH, cyano, halo, amino, nitro, C_{1-6} alkyl and/or C_{1-6} alkoxy);

Het^3 represents a five to ten-membered heterocyclic ring containing one or more heteroatoms selected from oxygen, nitrogen and/or sulfur, and which also optionally includes one or more =O substituents;

p represents 0, 1, 2, 3 or 4;

or a pharmaceutically acceptable salt, , N-oxide or quaternary ammonium derivative thereof;

wherein alkyl groups that R^1 , R^2 , R^3 , R^4 , R^{5a} , R^{5b} , R^6 , R^7 , R^{7a} , R^{7b} , R^8 , R^{10} , R^{11} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{18a} , R^{19} , R^{20} , R^{21} , R^{22} , R^{23} , R^{24} , R^{25} and D may represent, and with which R^1 , R^7 , R^8 , R^{11} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} and R^{25} may be substituted; and alkoxy groups and R^6 may represent, and with which R^1 , R^7 , R^8 , R^{11} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} and R^{25} may be substituted, may be linear or, when there is a sufficient number (i.e. three) of carbon atoms, be branched and/or cyclic, and wherein, when there is a sufficient number (i.e. four) of carbon atoms, such alkyl and alkoxy groups may also be part cyclic/acyclic, and wherein such alkyl and alkoxy groups may also be saturated or, when there is a sufficient number (i.e. two) of carbon atoms, be unsaturated and/or interrupted by oxygen and/or substituted by one or more fluoro groups; and

wherein alkylene groups that A and B may represent, and $-(CH_2)-$ containing groups that R^1 , R^2 and R^3 (together), R^7 , R^8 , R^{10} , R^{11} , R^{13} , R^{14} , R^{15} , R^{16} , R^{17} , R^{18} , R^{25} , A, B and D may include, may be linear or, when there is a sufficient number (i.e. two) of carbon atoms, be branched, and wherein such alkylene groups and $-(CH_2)-$ containing chains may also be saturated or, when there is a sufficient number (i.e. two) of carbon atoms, be unsaturated and/or interrupted by oxygen;

provided that:

(a) when D represents either H or -OH, and R^{5a} and R^{5b} both represent H, then at least one of R^2 and R^3 represents OR^7 , $OC(O)R^8$ or C_{1-4} alkyl, which alkyl group is substituted with one or more nitro or cyano groups; and

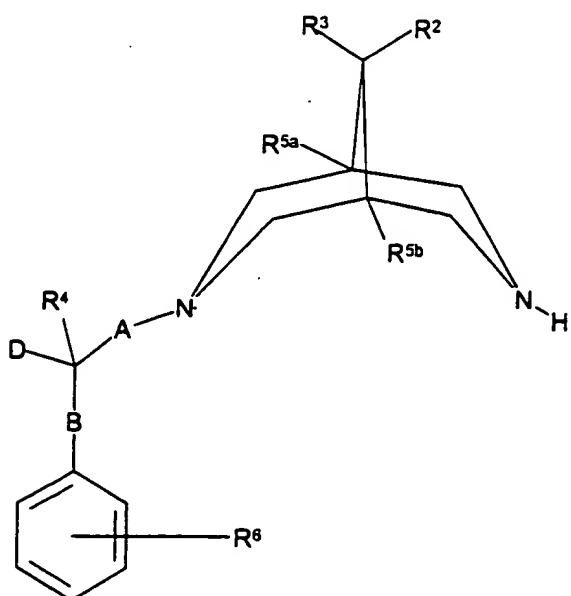
(b) when D represents -OH or $-(CH_2)_cN(R^{10})R^{11}$ in which c represents 0, then:-

- (i) A does not represent $-N(R^{23})(CH_2)_j-$, $-O(CH_2)_j-$ or $-CH_2)_jC(H)(OR^{23})(CH_2)_k-$ (in which k is 0); and/or
- (ii) m does not represent 0 when B represents $-(CH_2)_mN(R^{24})-$, $-(CH_2)_mS(O)_n-$ or $-(CH_2)_mO-$.

2 (Amended). A compound as claimed in Claim 1, wherein R^1 represents optionally substituted $-(CH_2)_a$ -phenyl, in which a is 0, 1, 2 or 3, or optionally substituted, optionally unsaturated, linear, branched or cyclic, C_{1-18} alkyl (which latter group may also be interrupted by an oxygen atom).

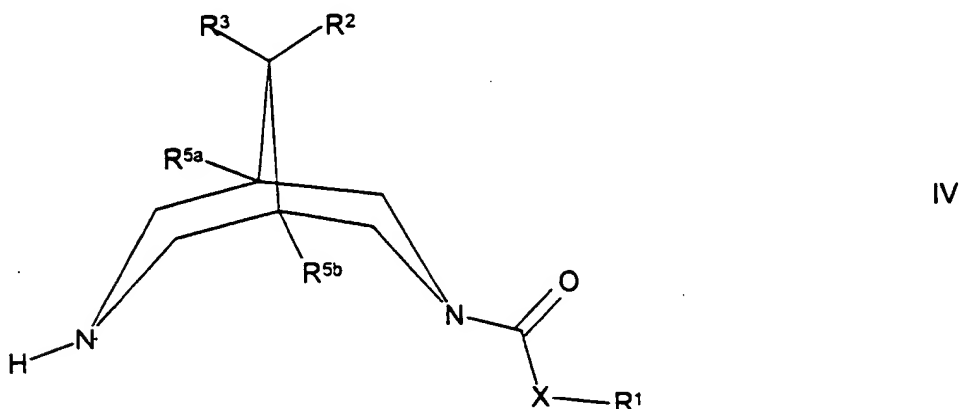
20 (Amended). A method of prophylaxis or treatment of an arrhythmia which method comprises administration of a therapeutically effective amount of a compound as defined in Claim 1 to a person in need thereof.

22 (Amended). A compound of formula II



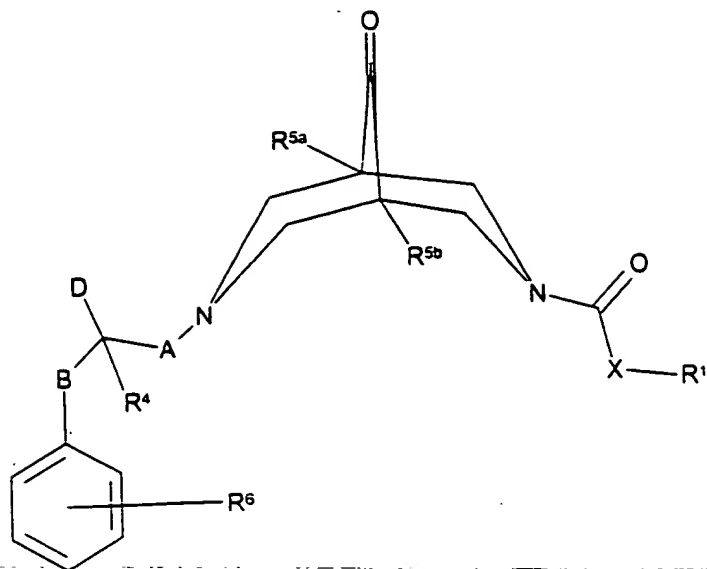
wherein R^2 , R^3 , R^4 , R^{5a} , R^{5b} , R^6 , A, B and D are as defined in Claim 1, or a protected derivative thereof, provided that when R^{5a} and R^{5b} both represent H, then D does not represent H or OH.

23 (Twice amended). A compound of formula IV



wherein R^1 , R^2 , R^3 , R^{5a} , R^{5b} and X are as defined in Claim 1, or a protected derivative thereof, provided that when R^{5a} and R^{5b} both represent H, then at least one of R^2 and R^3 represents OR^7 , $OC(O)R^8$ or C_{1-4} alkyl, which alkyl group is substituted with one or more nitro or cyano groups.

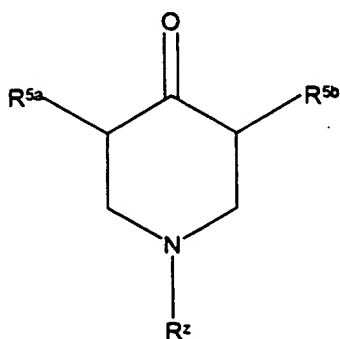
24 (Amended). A compound of formula VIII



VIII

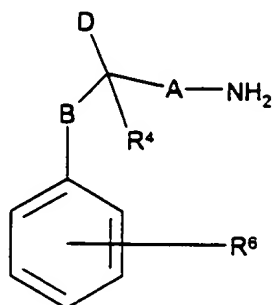
wherein R^1 , R^4 , R^{5a} , R^{5b} , R^6 , A, B, D and X are as defined in Claim 1, or a protected derivative thereof, provided that when R^{5a} and R^{5b} both represent H, then D does not represent H or OH.

26 (Twice amended). A process for the preparation of a compound of formula VIII, as defined in Claim 24, or a compound of formula XVII, as defined in Claim 25, which comprises reaction of a compound of formula XXIX,



XXIX

wherein R^Z represents H or $-C(O)XR^1$ and R^1 , R^{5a} , R^{5b} and X are as defined in Claim 1 with a compound of formula XXX,



XXX

or a protected derivative thereof, wherein R^4 , R^6 , A, B and D are as defined in Claim 1, in the presence of a formaldehyde.